

10/747,781  
60130-1734**REMARKS**

Claims 1-18 are currently pending, claims 7, 9-11 and 16 have been withdrawn.

Applicant has amended the specification to include a description of reference numeral 84. The specification has been further amended to correct minor inconsistencies noted by Examiner. Further, the claims have been amended to comply with the requirements of 35 U.S.C. § 112.

Claims 1, 8, 12-15 and 18 were rejected as being anticipated by Beuchle et al. (U.S. 3,207,267). Amended claim 1 requires a support pivotally mounted at an angle relative to a rotatable brake member, and a brake pad that is movable along the support where the angle of the support relative to the rotatable brake member is variable for controlling a gain in braking force. Beuchle et al. does not disclose a variable angle support for controlling a gain in braking force. In Beuchle et al. a brake pad (11,12) engages a brake disk (1) by movement of arms (3,4). The arms (3,4) move the brake pads (11,12) into the brake disk and friction between the pad and the disk causes the pad to move laterally. The lateral movement causes a rear portion of the brake pad (11) to ride up a V-groove (16). Riding up the V-groove provides the gain in braking force above that provided by the applied force provided by the arms (3,4).

However, in the Beuchle et al. brake, the gain in braking force is not controllable for a given applied force. That is once force is applied to the brake pad (11) the pad will ride up the pin 14 in a fixed manner and generate an uncontrolled gain in braking force. Because neither the pin (14) nor V-groove 16 is variable there can be no control over the gain in braking force provided by the self-energizing features. For this reason the fixed pin (14) and constant V-groove configuration of Beuchle et al. cannot meet the requirements of an angle variable for controlling a gain in braking force.

Further, amended claim 14 includes the limitation supporting a brake pad at an angle relative to a rotatable brake member and varying the angle for controlling a gain in braking force. The Beuchle et al. device does not provide any structure for controlling a gain in

10/747,781  
60130-1734

braking force and therefore cannot anticipate the limitations in claim 14. Accordingly, Applicant requests withdrawal of the rejections to claims 1, 8, 12-15 and 18.

Claim 14, 17 and 18 were rejected as being anticipated by Karnopp et al. (U.S. 4,852,699). Amended claim 14 requires the steps of supporting a brake pad on a support at an angle relative to the rotatable member and changing the angle in response to a predetermined gain in braking force. Karnopp et al. discloses a brake pad hinged that rotates about a stationary pivot point, and an electric motor for moving the brake pad into contact with a brake disk. However, the angle of the brake pad in Karnopp et al is not changed responsive to a gain in braking force. The pad in Karnopp et al engages the rotating disk and is pulled further into the disk by the frictional contact therebetween. The pad does not slide and rotates about a fixed pivot (26).

There is no means provided in the Karnopp et al. device that provides for the control of the gain in braking force. The motor can only change an application force. As appreciated, once the application force is provided there is no means provided in Karnopp of varying or adjusting a gain in braking force that is provided by the self-energizing features. Because the pad rotates about a fixed point, any brake force gain will be constant for a given applied force. Accordingly, the step of changing the angle of the support relative to the rotatable member in response to a predetermined gain in braking force cannot be anticipated by Karnopp et al. For this reason, the rejection of claims 14, 17 and 18 should be withdrawn.

Claim 2 and 3 were rejected as being obvious over Beuchle et al. in view of knowledge in the art. Claim 2 requires that the brake pad comprise a wedge and a friction element pivotally mounted to the wedge. Claim 3 requires that engagement of the friction element and the rotatable member drives the brake pad along the support to increase braking force.

Examiner has indicated that Beuchle et al discloses an element (3) and a friction element (11,12) pivotally mounted to that element (3), and further that modifying the shape of the element (3) into a wedge is obvious in view of the skill in the art. However, such a

10/747,781  
60130-1734

reading is not supported by the required suggestion and motivation and in any case does not disclose or suggest all the limitation required by claim 2.

First there is no suggestion or motivation for such a modification of the Beuchle et al as modifying element (3) into a wedge shape would provide no benefit. Where there is no benefit there can be no suggestion or motivation. The use of a wedge shaped element (3) would provide no benefit because the self-energizing features comprise the pin (14) and the V-groove (15). The shape of the element (3) is not relevant to the generation of gain in the Beuchle et al device and as such there would be no benefit for a worker skilled in the art to modify element (3) into a wedge shape. Where there is no benefit there can be no suggestion or motivation and therefore no prima facie case for obviousness.

Further claims 2 and 3 depend from claim 1, and claim 1 includes the limitation of varying an angle of the support to control a gain in braking force. For the reasons discussed above Beuchle et al. does not anticipate this limitation. Accordingly, the rejection to claims 2 and 3 should be withdrawn.

Claims 1-6, 8, 12 and 13 have been rejected as being obvious over Thompson et al. (U.S. 6,371,261) modified in view of Beuchle et al. Thompson et al. discloses an elevator brake that includes a ramped support of a constant angle. The Thompson et al device is not pivotally mounted and does not include a support with a variable angle for controlling a gain in braking force. Beuchle et al. discloses a pivotally attached support but does not disclose or suggest a support with an angle that is variable for controlling a gain in braking force. As discussed hereinabove, Beuchle et al. includes a fixed pin (13) engaged with a V-groove of the brake pad (11,12). The fixed pin (13) and V-groove do not provide control of a gain in braking force. Accordingly, the proposed modification does not disclose all the features of claim 1. For these reasons, the rejection to claims 1-6, 8, 12 and 13 should be withdrawn.

Applicant has added new claims 19-22. Claims 19, and 22 include the limitation that a brake pad is movable along a support between an engaged position and a disengaged position with the rotatable brake member to generate a braking force against movement of the rotatable member, wherein the braking force comprises an applied force and a gain

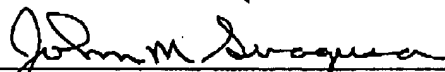
10/747,781  
60130-1734

component generated by the brake assembly and an actuator for varying the angle of the support for controlling the gain component of the braking force. The prior art does not include an actuator for adjusting an angle to control the gain component of the braking force.

Applicant has addressed each objection and rejection and believes that the claims are now in condition for allowance. The Commissioner is authorized to charge Deposit Account No. 50-1482, in the name of Carlson, Gaskey & Olds, P.C. \$100.00 for two additional claims in excess of twenty. No additional fees are seen to be required. If any additional fees are due, however, the Commissioner is authorized to charge Deposit Account No. 50-1482, in the name of Carlson, Gaskey & Olds, P.C., for any additional fees or credit the account for any overpayment. Therefore, favorable reconsideration and allowance of this application is respectfully requested.

Respectfully Submitted,

CARLSON, GASKEY & OLDS, P.C.

  
JOHN M. SIRAGUSA  
Registration No. 46,174  
Attorneys for Applicant  
CARLSON, GASKEY & OLDS, P.C.  
400 West Maple Road, Suite 350  
Birmingham, Michigan 48009  
(248) 988-8360

Dated: May 9, 2005